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Bruce S Hall

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MCLEAN, VA 22102-3833

EXAMINER

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/510,691	Applicant(s) HALL, BRUCE S	
	Examiner PHI D. A	Art Unit 3633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17, 19-21, 23-35, 37-39, 41 and 52-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19-21, 23-35, 37-39, 41 and 52-69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. PRODUCT BY PROCESS CLAIM:

“ The subject matter present is regarded as a product by process claim in which a product is introduced by the method in which it is made. It is the general practice of this office to examine the final product described regardless of the method provided by the applicant.”

The above office policy applies to the limitation “ cured” of claim 14.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 1-17, 19-21, 23-35, 37-39, 41, 52-69 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The newly added limitations of “first of the opposing edges being adjacent a ceiling of the structure and second of the opposing edges being adjacent a floor of the structure” in the independent claims, are new matter as they are not originally disclosed. The original specification never mentions the panels being adjacent the ceiling or the floor of the structure. The dependent claims are also indefinite as they depend on the independent claims.

The claims are examined as best understood.

1. PRODUCT BY PROCESS CLAIM:

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“ The subject matter present is regarded as a product by process claim in which a product is introduced by the method in which it is made. It is the general practice of this office to examine the final product described regardless of the method provided by the applicant.”

The above office policy applies to the limitations of “ cured”, “ sprayed” of claims 14, 27, 30-31, 38, and 52-53.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 6-7, 12, 14-15, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907) in view of Diamond (6289642).

Diamond (...907, figure 14) shows a method of providing a blast resistance of a structure comprising spraying a layer of elastomer material (920A or 920B only, not both layers 920B and 920A) to form a blast resistant panel of a predetermine thickness in the range of about 100 mil to about 250 mil (the range is disclosed by the reference's range of (.5-12) inch thick in paragraph 53 for the material divided by half as the thickness is to layer 920A or 920B only, not both layers), once cured, securing the panel to a wall of the structure (40, 44), the elastomer material being polyurethane (paragraph 51), the panel is flexible, the spraying said layer of elastomeric material comprising spraying (nozzle 38) the layer directly onto a molding surface, fastener elements (247, 250, 865, 1372) for securing the cured layer to a surface of a structure, the panel having a thickness of about 180mil (within the disclosed range of (0.5-12inch)/2).

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Diamond (...907) does not show the blast resistant panel extending from at least two opposing edges of the wall of the structure with a first of the opposing edges being adjacent a ceiling of said structure and second of the opposing edges being adjacent a floor of the structure.

Diamond (907) further discloses that the panel (816) can be cut to fit various shapes and sizes of windows.

Diamond (...642) figure (3) shows a panel (18) extending from at least two opposing edges of the wall of the structure (14, 16) with a first of the opposing edges being adjacent a ceiling of said structure(14) and second of the opposing edges being adjacent a floor of the structure (14).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond (...907)'s panel to show the blast resistant panel extending from at least two opposing edges of the wall of the structure with a first of the opposing edges being adjacent a ceiling of said structure and second of the opposing edges being adjacent a floor of the structure because it enables the protection of the window pane beyond the peripheral edges of frame member (16) and thus prevents any debris from getting at the glass pane through the peripheral edges of the frame (16) as taught by Diamond (...642).

3. Claims 3, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907) in view of Diamond (6289642) as applied to claim 1 above and further in view of Fyfe (6806212).

Diamond as modified shows all the claimed limitations except for the elastomeric material being a polyurea material.

Fyfe discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

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It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the elastomeric material being a polyurea material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

Diamond as modified shows all the claimed limitations. The claimed method steps of improving blast resistant to a structure would have been the obvious method steps of protecting a structure with Diamond's modified structure.

4. Claims 4-5, 9-10, 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907) in view of Diamond (6289642) as applied to claim 2, 7 or 14 above and further in view of Fyfe (6806212).

Diamond as modified shows all the claimed limitations except for the elastomeric material having a percent elongation at break in a range of about 100-800%, the range being of about 400-800%.

Fyfe further discloses preferred sprayed polyurethane for having a percent elongation at break in a range of about 600-700%, and the tensile strength of about 4000psi.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the elastomeric material being having a percent elongation at break in a range of about 100-800% and having a tensile strength greater than 2000psi, the range being of about 400-800% because it would allow for good curing time and no release of volatile organic solvents mix as taught by Fyfe.

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Diamond as modified shows all the claimed limitations. The claimed method steps of improving blast resistant to a structure would have been the obvious method steps of protecting a structure with Diamond's modified structure.

5. Claims 11, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907) in view of Diamond (6289642) as applied to claim 1 or 6 above and further in view of Makami et al (4478895).

Diamond as modified shows all the claimed limitations except for the step of spraying the layer of elastomeric material comprising spraying the material onto a fabric reinforcement layer, the step of spraying the material onto a reinforcement layer positioned on a molding surface.

Makami et al discloses the step of spraying layers of elastomers on a fabric reinforcement layer (1).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the step of spraying the layer of elastomeric material comprising spraying the material onto a fabric reinforcement layer, the step of spraying the material onto a reinforcement layer positioned on a molding surface because having a fabric layer within layers of elastomer would impart strength dimensional stability to the structure as taught by Makami et al (col 2 line 34).

Diamond as modified shows all the claimed limitations. The claimed method steps of improving blast resistant to a structure would have been the obvious method steps of protecting a structure with Diamond's modified structure.

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6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907) in view of Diamond (6289642) as applied to claim 14 above and further in view of Fyfe (6806212).

Diamond as modified shows all the claimed limitations except for the elastomeric material being a polyurea material.

Fyfe discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the elastomeric material being a polyurea material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

7. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907) in view of Diamond (6289642) as applied to claim 14 above and further in view of Makami et al (4478895).

Diamond as modified shows all the claimed limitations except for the panel further comprising a fabric reinforcing layer.

Makami et al discloses the using fabric(1) to reinforce layers of elastomers.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the panel further comprising a fabric reinforcing layer because having a fabric layer within layers of elastomer would impart strength dimensional stability to the structure as taught by Makami et al (col 2 line 34).

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8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907), Diamond (6289642) and Fyfe (6806212) as applied to claim 16 above and further in view of Makami et al (4478895).

Diamond as modified shows all the claimed limitations except for the panel further comprising a fabric reinforcing layer.

Makami et al discloses the using fabric(1) to reinforce layers of elastomers.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the panel further comprising a fabric reinforcing layer because having a fabric layer within layers of elastomer would impart strength dimensional stability to the structure as taught by Makami et al (col 2 line 34).

9. Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (6898907, previously 2002/0184841), Diamond (6289642), Fyfe (6806212) and Makami et al as applied to claim 24 above and further in view of Benedict et al (5681612).

Diamond as modified shows all the claimed limitations except for the fabric reinforcing layer being of aramid fibers or polyester fibers.

Benedict et al discloses fabric reinforcing layer being of aramid fibers or polyester fibers.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diamond's modified structure to show the fabric reinforcing layer being of aramid fibers or polyester fibers because these fabric are readily available and provides good strength for the composite structure as taught by Benedict et al.

10. Claims 14, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Santos (5347775) in view of Diamond (6898907) and Carson et al (5242207).

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Santos shows a blast resistant panel comprising a panel (40) having a predetermined thickness, fastener elements (56, 56') for securing the panel to a wall of a structure (the wall) so that the panel extends from at least two opposing edges of the wall of the structure with a first of the opposing edges abutting a ceiling (figure 2, the ceiling being where the top of the opening is near the part 20) and second of the opposing edges abutting a floor of the structure (the floor is the wall surface adjacent to part 30), a channel member (20) secured to the panel around at least a portion of the peripheral thereof.

Santos does not show the panel being made of elastomeric material having a thickness in the range of about 100mil to about 250 mil.

Carson et al discloses a panel having a thickness of 100-250 mil.

Diamond shows a panel being made of elastomeric material.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Santos' structure to show the panel being made of elastomeric material as taught by Diamond and the panel having a thickness in the range of about 100mil to about 250mil as taught by Carson et al because the having the desired thickness and material would enable the panel to withstand and protect a window structure against stormy weather.

11. Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Madden Jr (5811719) and Carson et al (5242207).

Haas shows a system comprising a panel (13) constructed of a fiberglass loaded plastic, the panel having a steel channel (6) fastened around a peripheral thereof, a plurality of fasteners adapted to fasten the channel and the panel to a wall of a structure from a ceiling abutting a top (figure 3, the top being the ceiling and the bottom being the floor) of the wall to a floor abutting

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a bottom of the wall with said blast-resistant panel, a pair of opposing sides depending from the opposite ends of a bottom portion to form a substantially U-shaped channel, a U-shaped steel channel along a top portion, a bottom portion, a first side portion of the periphery (figure 1), the panel being cured (inherently so as it is of plastic), the channel is fastened to an interior surface of the structure (inherently so as no structure is claimed and no relationship between the structure and the system is claimed with respect to position).

Haas does not show the plastic being a flexible blast resistant elastomeric material having a predetermined thickness in a range between about 100 mil and 250 mil, the fiber being a fabric reinforcing layer.

Carson et al shows a panel having a thickness in the range of 100 mil to 250mil to protect the structure(17).

Madden Jr. discloses a protective shield having layers of fibrous material held together by flexible resins (col 6 lines 2-3).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's structure to show the plastic being an elastomeric material, the fiber being a fabric reinforcing layer, the material having a predetermined thickness in a range between about 100 mil and 250 mil because having elastomeric material surrounding fiber layers to form a protective device would enable the device to withstand tremendous impact forces as taught by Madden Jr, and having the thickness of the panel in the range of 100-250 mil as taught by Carson et al would provide proper protection for the structure against vandalism.

12. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Madden Jr (5811719) and Carson et al as applied to claim 27 above and further in view of White (6907811)

Haas as modified shows all the claimed limitations except for a Z-shaped steel channel along a second side portion of the periphery opposite the first side portion and between the top and bottom side portion, the Z-shaped steel channel to be fastened to a first and second of the one or more panels.

White (figure 5) discloses a Z-shaped channel along a second side portion of the periphery opposite the first side portion and between the top and bottom side portion, the Z-shaped steel channel to be fastened to a first and second of the one or more panels.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show a Z-shaped steel channel along a second side portion of the periphery opposite the first side portion and between the top and bottom side portion, the Z-shaped steel channel to be fastened to a first and second of the one or more panels because it would allow for the supporting of multiple panels to span and cover a large area as taught by White.

13. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond (6898907).

Haas shows a system comprising a panel (13) constructed of a fiberglass loaded plastic, the panel having a steel channel (6) fastened around a peripheral thereof, a plurality of fasteners adapted to fasten the channel and the panel to a wall of a structure, the panel sized to extend across and cover an area between opposing sides of the wall of the structure (the limitation does

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not limit the covering only to the area therebetween) with a first of the opposing sides abutting a ceiling (figure 3, the top part) of the structure and a second of the opposing sides abutting a floor (figure 3, the bottom) of the structure, the channel is adapted to fasten to an interior surface of the structure (inherently capable of doing so).

Haas does not show the plastic being a flexible blast resistant elastomeric material.

Diamond shows a flexible blast resistant elastomer panel to protect the structure against storm.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's structure to show the plastic being a flexible blast resistant elastomeric material because it would provide proper protection for the structure against stormy weather as taught by Diamond.

14. Claims 31-35, 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond (6898907) as applied to claim 30 above, and further in view of Madden Jr (5811719).

Haas as modified shows all the claimed limitations except for the panel comprising a fabric reinforcing layer.

Madden Jr. discloses a protective shield having layers of fibrous material held together by flexible resins (col 6 lines 2-3), the fibrous material being of aramid fiber and the fiber being open grid pattern..

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the panel having a fabric reinforcing layer

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because having elastomeric material surrounding fiber layers to form a protective device would enable the device to withstand tremendous impact forces as taught by Madden Jr.

Per claims 32-34, Haas as modified shows the fabric layer being embedded in the elastomeric material, the fabric being of aramid fiber and the fiber being open grid pattern (Madden col 5 line 66).

Per claim 37, Haas as modified shows a panel that provides for the containment of shrapnel between the elastomeric panel and the surface of the wall.

15. Claim 38-39, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond as applied to claim 30 above and further in view of Fyfe (6806212).

Haas as modified shows all the claimed limitations except for the elastomeric material having a percent elongation at break in a range of about 100-800%, the range being of about 400-800%.

Fyfe further discloses preferred sprayed polyurethane for having a percent elongation at break in a range of about 600-700%.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the elastomeric material being having a percent elongation at break in a range of about 100-800%, the range being of about 400-800%. because it would allow for good curing time and no release of volatile organic solvents mix as taught by Fyfe.

Per claim 41, Haas as modified shows all the claimed limitations except for the elastomeric material being a polyurea material.

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Fyfe further discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the elastomeric material being a polyurea material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

16. Claims 52, 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Madden Jr (5811719), Carson et al (5242207) and Fyfe (6806212).

Haas shows a system comprising a blast resistant panel (13, inherently so as the panel would resistant projectile going through) constructed of a fiberglass loaded plastic, the panel having a U-shaped steel channel (6) fastened around a peripheral thereof, the periphery of the panel fastenable to a wall of a structure so as to cover the wall of a structure from a ceiling abutting a top of the wall to a floor abutting a bottom of the wall with the panel, a plurality of fasteners adapted to fasten the channel and the panel to a wall of a structure, a pair of opposing sides depending from the opposite ends of a bottom portion to form a substantially U-shaped channel, the panel being cured (inherently so as it is of plastic).

Haas does not show the plastic being an elastomeric material, the fiber being a fabric reinforcing layer, the panel having a thickness of about 100-250 mil, a percent elongation at break in a range of about 400-800%, the fabric layer being substantially planar and including warp and fill yarns defining an open grid pattern with openings of up to about 0.5 inch by 0.25 inch.

Madden Jr. discloses a protective shield having layers of fibrous material held together by flexible resins (col 6 lines 2-3), the fiber layer being open grid pattern.

Carson et al discloses a protective panel (20) having a thickness of 100-250mil.

Fyfe discloses preferred sprayed polyurethane for having a percent elongation at break in a range of about 600-700%.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's structure to show the plastic being an elastomeric material, the fiber being a fabric reinforcing layer, the panel having a thickness of about 100-250 mil, a percent elongation at break in a range of about 400-800% and a tensile strength of about 2000psi or greater, the fabric layer being substantially planar and including warp and fill yarns defining an open grid pattern with openings of up to about 0.5 inch by 0.25 inch because having elastomeric material surrounding fiber layers to form a protective device would enable the device to withstand tremendous impact forces as taught by Madden Jr., the panel having the percent elongation at break in a range of about 400-800% would allow for good curing time and no release of volatile organic solvents mix as taught by Fyfe, and the panel having a thickness in the range of about 100-250mil as taught by Carson et al would provide for good protective strength to the cover, and having the fiber defining an open grid pattern with opening of up to about 0.5 inch by 0.25 inch would allow for easy adhesion and bonding of the elastomer to the fabric.

17. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Madden Jr (5811719), Carson et al, and Fyfe (6806212) as applied to claim 52 above, and further in view of Young (4562666).

Haas as modified shows all the claimed limitations except for the fastener elements passing through the steel channel system and the periphery of the cured, blast resistant panel.

Young discloses fasteners (14) passing through both a channel system (17) and the periphery of a panel (10) to securely mount the panel and the channel system fixedly in place.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the fastener elements passing through the steel channel system and the periphery of the cured, blast resistant panel because it would enable the secure fastened in place of the channel system and the panel as taught by Young.

18. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Madden Jr (5811719), Carson et al, and Fyfe (6806212).

Haas as modified shows all the claimed limitations except for the elastomeric material being a polyurea material.

Fyfe further discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the elastomeric material being a polyurea material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

19. Claims 57, 66, 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carson et al (5242207) in view of Sato et al (4730023).

Carson et al (figure 6) shows a system comprising a flexible, blast resistant panel (20) of an acrylic material having a predetermined thickness in the range of about 100-250mil (col 3 line

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54), a channel (26, 29) attached around a periphery of the panel, a plurality of fasteners (43) to fasten the channel to a wall of a structure (the wall of a vehicle), the panel sized to extend across and cover an area between opposing sides of the wall of the structure with a first of the opposing sides abutting a ceiling (figure 6 shows the top being ceiling at 40) of said structure and a second of the opposing sides abutting a floor of the structure (figure 5 shows the floor at 40), the panel being adapted to prevent shrapnel from entering the room after the wall is subjected to an explosion (inherently capable of functioning as claimed), the panel having a thickness of about 180 mil.

Carson et al does not show the panel being made of acrylic elastomer material.

Sato discloses the use of acrylic elastomers for forming transparent panel being well known in the art (col 2 lines 11-15).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Carson et al's structure to show the acrylic panel being made of acrylic elastomer because it enhances the weatherrability of the panel as taught by Sato et al.

20. Claims 64-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carson et al (5242207) in view of Sato et al (4730023) as applied to claim 57 above and further in view of Fyfe.

Carson et al as modified shows all the claimed limitations except for the elastomeric material being polyurea.

Fyfe further discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Carson et al's modified structure to show the elastomeric material being a polyurea material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

21. Claims 67-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carson et al in view of Sato et al as applied to claim 57 above and further in view of Madden Jr (5811719).

Carson et al as modified shows all the claimed limitations except for the panel comprising a fabric reinforcing layer, the layer is constructed of at least one of aramid fibers and polyester fibers.

Madden Jr. discloses a protective shield having layers of fibrous material held together by flexible resins (col 6 lines 2-3), the fibrous material being of aramid fiber.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Carson et al's modified structure to show the panel having a fabric reinforcing layer because having elastomeric material surrounding fiber layers to form a protective device would enable the device to withstand tremendous impact forces as taught by Madden Jr.

22. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carson et al(5242207) in view of Sato et al (4730023).

Carson et al as modified shows all the claimed structural limitations. The claimed method steps of improving the blast resistant of a structure would have been the obvious method steps of improving blast resistant with Carson et al's modified structure.

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23. Claims 56, 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond (6898907) and Carson et al (5242207).

Haas shows a system comprising a blast resistant panel (13, inherently so as the panel would resistant projectile going through) constructed of a fiberglass loaded plastic, the panel having a U-shaped steel channel (6) fastened around a peripheral thereof, the periphery of the panel fastenable to a wall of a structure so as to cover the wall of a structure from a ceiling abutting a top of the wall to a floor abutting a bottom of the wall with the panel,

Haas does not show the plastic being an elastomeric material, the panel having a thickness in the range of about 100 mil to about 250 mil.

Diamond discloses a layer of elastomeric material forming a protective layer for a wall.

Carson et al discloses a protective panel (20) having a thickness of 100-250mil.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's structure to show the plastic being an elastomeric material as taught by Diamond, the panel having a thickness in the range of about 100 mil to about 250 mil as taught by Carson et al since providing the desired thickness and material would enable the formation of a strong protective structure for the wall.

Haas as modified shows all the claimed structural limitations. The claimed method steps would have been the obvious method steps of providing protection to the wall with Haas's modified structures.

24. Claims 58-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond (6898907) and Carson et al (5242207) as applied to claim 56 above and further in view of Fyfe (6806212).

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Haas as modified shows all the claimed limitations except for the material being polyurea.

Fyfe further discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the elastomeric material being a polyurea material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

Per claim 60, Haas as modified by Fyfe further shows the material having a percent elongation at break in a range of about 100-800%.

Haas as modified shows all the claimed structural limitations. The claimed method steps would have been the obvious method steps of providing protection to the wall with Haas's modified structures.

25. Claims 61-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond (6898907) and Carson et al (5242207) as applied to claim 56 above and further in view of Makami et al (4478895).

Haas as modified shows all the claimed limitations except for the panel comprising a fabric reinforcing layer, spraying the layer of elastomeric material comprising spraying the layer directly onto a molding surface.

Makami et al discloses the step of spraying layers of elastomers on a fabric reinforcement layer (1).

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It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the step of spraying the layer of elastomeric material comprising spraying the material onto a fabric reinforcement layer, the step of spraying the material onto a reinforcement layer positioned on a molding surface because having a fabric layer within layers of elastomer would impart strength dimensional stability to the structure as taught by Makami et al (col 2 line 34).

26. Claims 57, 66, 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond (6898907) and Carson et al (5242207).

Haas shows a system comprising a blast resistant panel (13, inherently so as the panel would resistant projectile going through) constructed of a fiberglass loaded plastic, the panel having a U-shaped steel channel (6) fastened around a peripheral thereof, the periphery of the panel fastenable to a wall of a structure with a plurality of fasteners, so as to cover the wall of a structure from a ceiling abutting a top of the wall to a floor abutting a bottom of the wall with the panel,

Haas does not show the plastic being an elastomeric material, the panel having a thickness in the range of about 100 mil to about 250 mil.

Diamond discloses a layer of elastomeric material forming a protective layer for a wall.

Carson et al discloses a protective panel (20) having a thickness of 100-250mil.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's structure to show the plastic being an elastomeric material as taught by Diamond, the panel having a thickness in the range of about 100 mil to about 250 mil as

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taught by Carson et al since providing the desired thickness and material would enable the formation of a strong protective structure for the wall.

27. Claims 64-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond (6898907) and Carson et al (5242207) as applied to claim 56 above and further in view of Fyfe (6806212).

Haas as modified shows all the claimed limitations except for the material being polyurea.

Fyfe further discloses polyurea for forming a coating for reinforcing structure (col 3 lines 25-48).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the elastomeric material being a polyurea material because polyurea would provide a good coating for reinforcing structures as taught by Fyfe.

28. Claims 67-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (6269597) in view of Diamond (6898907) and Carson et al (5242207) as applied to claim 57 above and further in view of Madden Jr (5811719).

Haas as modified shows all the claimed limitations except for the panel comprising a fabric reinforcing layer, the layer is constructed of at least one of aramid fibers and polyester fibers.

Madden Jr. discloses a protective shield having layers of fibrous material held together by flexible resins (col 6 lines 2-3), the fibrous material being of aramid fiber.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Haas's modified structure to show the panel having a fabric reinforcing layer because having elastomeric material surrounding fiber layers to form a protective device would enable the device to withstand tremendous impact forces as taught by Madden Jr.

Response to Arguments

2. Applicant's arguments with respect to claims 1-17, 19-21, 23-35, 37-39, 41, 52-69 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phi D A whose telephone number is 571-272-6864. The examiner can normally be reached on Monday-Thursday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Glessner can be reached on 571-272-6843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Phi D A/
Primary Examiner, Art Unit 3633

Phi Dieu Tran A

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